05-05-08

Attorney's Docket No.: 119362-00002/1227B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Barbas III et al.

Art Unit : 1652

Patent No.: 7,329,728

Examiner: Lorraine Spector

Issue Date: February 12, 2008

Conf. No.: 6568

Serial No.: 09/586,625

Cust. No. : 77202

Filed

: June 2, 2000

Title

: LIGAND ACTIVATED TRANSCRIPTIONAL REGULATOR PROTEINS

Attn.: Certificate of Correction Branch

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Dear Sir:

Transmitted herewith are a Request for a Certificate of Correction pursuant to C.F.R. § 1.322 & 1.323 (6 pages), supporting documents (9 pages), Certificate of Correction Form PTO-1050 (5 pages), and a return postcard for filing in connection with the above-identified application. Since not all the errors are those of the Patent Office, the Office is hereby authorized to charge the fee required by 37 CFR §1.20(a) to Deposit Account No. 02-1818.

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The Commissioner is hereby authorized to charge any fees that may be due in connection with this paper or with this application during its entire pendency to Deposit Account No. 02-1818. A duplicate of this sheet is enclosed.

Ion Levy

Respectfull submitted,

Stephanie Seidman Reg. No. 33,779

Attorney Docket No. 119362-00002/1227B Address all correspondence to: 77202

Stephanie Seidman

BELL, BOYD & LLOYD LLP

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San Diego, CA, 92130

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CERTIFICATE OF MAILING BY "EXPRESS MAIL" "Express Mail" Mailing Label Number EM 247735892 US Date of Deposit May 02, 2008 I hereby certify that this paper is being deposited with the United States Postal "Express Mail Post Office to Addressee" Service under 37 CFR §1.10 on the date indicated above and is addressed to: Commissioner for Patents, U.S. Patent and Trademark OfficisPTO P.O. Box 1450, Alexandria, VA, 22313-1450 HECELVED-USPTO Patent Publication

8 2008 MAY

Attorney's Docket No.: 119362-00002/1227B



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Barbas III et al. Art Unit : 1652

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P.O. Box 1450

Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION

Dear Sir:

Pursuant to 37 C.F.R. § 1.322, the patentee respectfully requests that a Certificate of Correction be issued for the above referenced patent to correct the following errors:

IN THE TITLE PAGES:

In Item (56) References Cited, in U.S. PATENT DOCUMENTS:

please add the following reference: —2003/0186841	10/2003	Barbas III et al.—
please add the following reference: —2004/0224385	4/2005	Barbas et al.—
please add the following reference: —2005/0084885	4/2005	Barbas III et al.—
please add the following reference: —2005/0148075	7/2005	Barbas, C.F.—
please add the following reference: —6,790,941	9/2004	Barbas III et al.—

In Item (56) References Cited, in FOREIGN PATENT DOCUMENTS:

please add the following reference: —WO 1/52620 07/2001--please add the following reference: —WO 2/06463 01/2002 please add the following reference: —WO 2002/097050 12/2002-

In Item (56) References Cited, in OTHER PUBLICATIONS:

CERTIFICATE OF MAILING BY "EXPRESS MAIL" 961696/D/1

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Date of Deposit May 02, 2008 I hereby certify that this paper is being deposited with the United States Postal "Express Mail Post Office to Addressee" Service under 37 CFR §1.10 on the date indicated above and is addressed

to: Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450 Alexandria, VA, 22313-1450. RECEIVED-USPTO Patent Publication

Jon Lleyv

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> 8 2008 MAY

Applicant: Barbas et al.

Attorney's Docket No.: 119362-00002/1227B

Patent No.: 7,329,728

Request for Certificate of Correction

Issued: February 12, 2008

Serial No.: 09/586,625 Filed: June 2, 2000

please add the following reference: — Alwin et al., "Custom zinc-finger nucleases for use in human cells," Mol. Ther. 12(4): 610-617 (2005)—.

please add the following reference: — Blancafort et al., "Designing transcription factor architectures for drug discovery," Mol. Pharmacol. 66(6): 1361-71 (2004)—.

please add the following reference: — Blancafort et al., "Genetic reprogramming of tumor cells by zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 102(33): 11716-21 (2005)—.

please add the following reference: — Blancafort et al., "Scanning the human genome with combinatorial transcription factor libraries," Nature Biotechnol. 31(3): 269-274 (2003)—.

please add the following reference: — Blau et al., "γ-globin gene expression in CID-dependent multi-potential cells established from beta-YAC transgenic mice," J. Biol. Chem. August 30, 2005—.

please add the following reference: — Dreier et al., "Development of zinc finger domains for recognition of the 5'-ANN-3' family of DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem. 276(31): 29466-78 (2001)—.

please add the following reference: — Dreier et al., "Development of zinc finger domains for recognition of the 5'-CNN-3' family DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem. 280(42):35588-35597 (2005)—.

please add the following reference: — Graslund et al., "Exploring strategies for the design of artificial transcription factors: targeting sites proximal to known regulatory regions for the induction of γ -globin expression and the treatment of sickle cell disease," J. Biol. Chem. 280(5): 3707-14 (2005)—.

please add the following reference: — Guan et al., "Heritable endogenous gene regulation in plants with designed polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13296-301 (2002)—.

please add the following reference: — Lin et al., "Small-molecule switches for zinc finger transcription factors," J. Am Chem. Soc. 125(3): 612-3 (2003)—.

please add the following reference: — Lund et al., "Promoter-targeted phage display selections with preassembled synthetic zinc finger libraries for endogenous gene regulation," J. Mol. Biol. 340(3): 599-613 (2004)—.

Applicant: Barbas et al.

Patent No.: 7,329,728

Issued: February 12, 2008

Serial No.: 09/586,625 Filed: June 2, 2000 Attorney's Docket No.: 119362-00002/1227B

Request for Certificate of Correction

please add the following reference: — Lund et al., "Zinc Finger Transcription Factors Designed for Bispecific Coregulation of ErB2 and ErbB3 Receptors: Insights into ErbB Receptor Biology," Mol. Cell. Biol. 25(20): 9082-91 (2005)—.

please add the following reference: — Magnenat et al., "In vivo selection of combinatorial libraries and designed affinity maturation of polydactyl zinc finger transcription factors for ICAM-1 provides new insights into gene regulation," J. Mol. Biol. 341(3): 635-49 (2004)—.

please add the following reference: — Ordiz et al., "Regulation of transgene expression in plants with polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13290-5 (2002)—.

please add the following reference: — Segal et al., "Custom DNA-binding proteins come of age: polydactyl zinc-finger proteins," Curr. Opin. Biotechnol. 12(6): 632-7 (2001)—.

please add the following reference: — Segal et al., "Evaluation of a modular strategy for the construction of novel polydactyl zinc finger DNA-binding proteins," Biochemistry 42(7): 2137-2148 (2003)—.

please add the following reference: — Segal et al., "Attenuation of HIV-1 replication in primary human cells with a designed zinc finger transcription factor," J. Biol. Chem. 279(15): 14509-19 (2004)—.

please add the following reference: — Segal et al., "Zinc fingers and a green thumb: manipulating gene expression in plants," Curr. Opin. Plant Biol. 6(2): 163-8 (2003)—.

please add the following reference: — Stege et al., "Controlling gene expression in plants using synthetic zinc finger transcription factors," Plant J. 32(6): 1077-86 (2002)—.

please add the following reference: — Tan et al., "Fusion proteins consisting of human immunodeficiency virus type 1 integrase and the designed polydactyl zinc finger protein E2C direct integration of viral DNA into specific sites," J. Virol. 78(3): 1301-13 (2004)—.

please add the following reference: — Xu et al., "A versatile framework for the design of ligand-dependent, transgene-specific transcription factors," Mol. Ther. 3(2): 262-73 (2001)

in Rollins, et al., please replace "TFIIA" with - TFIIIA -..

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Patent Publication

MAY 8 2008

Applicant : Barbas et al.

Patent No.: 7,329,728

Issued

: February 12, 2008

Serial No.: 09/586,625 Filed

: June 2, 2000

IN THE CLAIMS

Please replace claims 32, 34 and 35 with the following amended claims:

32. The vector of claim 31 that is selected from the group consisting of an adenoviral

Attorney's Docket No.: 119362-00002/1227B

Request for Certificate of Correction

vector, [[and]] an adeno-associated viral vector, a herpes virus vector, a vaccinia virus vector

and a lentiviral vector.

34. The vector of claim 33 that is selected from the group consisting of an adenoviral

vector, [[and]] an adeno-associated viral vector, a herpes virus vector, a vaccinia virus vector

and a lentiviral vector.

35. A combination, comprising:

a composition containing a fusion protein of claim 1; or

a compositions composition containing a nucleic acid molecule comprising a

sequence of nucleotides that encodes the fusion protein; and

a composition containing a regulatable expression cassette that comprises at least

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one response element recognized by the nucleic acid binding domain of the fusion protein.

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> **8** 2008 MAY

Applicant: Barbas et al. Attorney's Docket No.: 119362-00002/1227B
Patent No.: 7,329,728

Request for Certificate of Correction

Issued: February 12, 2008

Serial No.: 09/586,625 Filed: June 2, 2000

REMARKS

A Certificate of Correction (Form PTO-1050) incorporating the above changes is included with this Request. Since not all the errors are those of the Patent Office, the Office is hereby authorized to charge any fees due herein to Deposit Account No. 02-1818.

This Certificate of Correction seeks to correct omissions by the PTO in the "U.S. PATENT DOCUMENTS," "FOREIGN PATENT DOCUMENTS" and "OTHER PUBLICATIONS" sections of the References Cited, Item (56). These references were provided to the Patent Office on a PTO-1449 form on November 22, 2005. A copy of the examiner-initialed PTO-1449 form, mailed to the Applicant on August 7, 2006, is attached herewith as evidence for the incorporation of these references.

Additionally, this Certificate of Correction seeks to correct a typographical error made by the PTO in the "OTHER PUBLICATIONS" section of the References Cited, Item [56]. The amendment to Rollins et al., corrects a spelling mistake in the title of the reference by replacing "TFIIA" with — TFIIIA—. Basis for this correction can be found on page 6 of the PTO-1449 form submitted to the Patent Office on January 16, 2001 and subsequently initialed by the Examiner on January 31, 2002 (attached herewith), which provides the title of the Rollins et al., reference with the correct spelling.

This Certificate of Correction also seeks to correct obvious typographical errors in the Claims. Claims 32 and 34 are amended to correct the typographical error in which "and" was recited instead of "an" before "adeno-associated viral vector," such that the phrase now reads as —an adeno-associated viral vector—. Claim 35 is amended by replacing the word "compositions" with —composition— to render the phrase grammatically correct.

Patentee respectfully requests correction of errors by issuance of a Certificate of Correction.

Respectfully submitted,

Stephanie Seidman Reg. No. 33,779

RECEIVED-USPTO
Patent Publication

Applicant: Barbas et al. Attorney's Docket No.: 119362-00002/1227B Patent No.: 7,329,728 Request for Certificate of Correction

Issued: February 12, 2008 Serial No.: 09/586,625

Filed : June 2, 2000

Attorney Docket No. 119362-00002/1227B Address all correspondence to: 77202 Stephanie Seidman **BELL, BOYD & LLOYD LLP**

3580 Carmel Mountain Road, Suite 200

San Diego, CA, 92130 Telephone: (858) 509-7410 Facsimile: (858) 509-7460 email: sseidman@bellboyd.com Substitute Form PTO-1443 Department of Commerce (Modified)

Attorney's Docket No. 17083-003002/1227B Application No. 09/586,625

List of Patents and Publications for Applicant's Information Disclosure Statement

Applicant Carlos F. Barbas III et al.

Filing Date

June 2, 2000

Group Art Unit 1646

(37 CFR §1.98(b))

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	A.A.	2003/0143559	07/31/03	Sancono, R.P.	705		03/27/01
SHS	AB	2003/0186841	10/02/03	Barbas III et al.	514	l	04/23/03
- 1	AC	2004/0224385	04/21/05	Barbas et al.	435	69.1	06/18/04
	AD	2005/0084885	04/11/05	Barbas, III et al.	435	6	09/14/04
	AE	2005/0148075	07/07/05	Barbas, C.F.	435	455	08/21/03
-	AF	6,790,941	09/14/04	Barbas III et al.	530	400	02/09/00

	Foreig	n Patent Do	cuments or F	Published Foreign	Patent A	Application	าร	
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SHS	AG	01/52620	07/26/01	PCT				
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Initial	ID	Document 1974 (1974) (1974)
SHS	AJ	Alwin et al., "Custom zinc-finger nucleases for use in human cells," Mol. Ther. 12(4): 610-617 (2005)
<u> </u>	AK	Beerli, R.R.and C.F. Barbas III, "Engineering polydactyl zinc-finger transcription factors," Nature Biotechnology 20(2): 135-41 (2002)
	AL	Blancafort et al., "Designing transcription factor architectures for drug discovery," Mol. Pharmacol.
	AM	Blancafort et al., "Genetic reprogramming of tumor cells by zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 102(33): 11716-21 (2005)
	AN	Blancafort et al., "Scanning the human genome with combinatorial transcription factor libraries," Nature Biotechnol. 31(3): 269-274 (2003)
	AO	Blau et al., "y-globin gene expression in CID-dependent multi-potential cells established from beta-
	AP	Dreier et al., "Development of zinc finger domains for recognition of the 5'-ANN-3' family of DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem.
$\overline{\mathbf{V}}$	AQ	Dreier et al., "Development of zinc finger domains for recognition of the 5'-CNN-3' family DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem. 280(42):35588-35597 (2005)

Examiner Signature	Date Considered
	AND
EXAMINER: Initial if citation considered, whether or not citation is in conformance and not considered. Include copy of this form with next co	ommunication to applicant.

Application No. U.S. Department of Commerce Attorney's Docket No. Substitute Form PTO-1449 17083-003002/1227B 09/586,625 Patent and Trademark Office (Modified) Applicant Carlos F. Barbas III et al. List of Patents and Publications for Applicant's **Group Art Unit** Information Disclosure Statement Filing Date 1646 June 2, 2000 (37 CFR §1.98(b)) Other Documents (include Author, Title, Date, and Place of Publication) Desig. Examiner **Document** Initial ID Graslund et al., "Exploring strategies for the design of artificial transcription factors: targeting sites proximal to known regulatory regions for the induction of γ-globin expression and the treatment of SHS AR sickle cell disease," J. Biol. Chem. 280(5): 3707-14 (2005) Guan et al., "Heritable endogenous gene regulation in plants with designed polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13296-301 (2002) AS Lin et al., "Small-molecule switches for zinc finger transcription factors," J. Am Chem. Soc. 125(3): AT 612-3 (2003) Lund et al., "Promoter-targeted phage display selections with preassembled synthetic zinc finger ΑU libraries for endogenous gene regulation," J. Mol. Biol. 340(3): 599-613 (2004) Lund et al., "Zine Finger Transcription Pactors Designed for Dispecific Coregulation of ErD2 and ErbB3 Receptore Incights into ErbB Receptor Biology," Mel. Gell. Biol. 25(30): 9082-91 (2005) A۷ Magnenat et al., "In vivo selection of combinatorial libraries and designed affinity maturation of polydactyl zinc finger transcription factors for ICAM-1 provides new insights into gene regulation," SHS AW J. Mol. Biol. 341(3): 635-49 (2004) Ordiz et al., "Regulation of transgene expression in plants with polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13290-5 (2002) AX Segal et al., "Custom DNA-binding proteins come of age: polydactyl zinc-finger proteins," Curr. ΑY Opin. Biotechnol. 12(6): 632-7 (2001) Segal et al., "Evaluation of a modular strategy for the construction of novel polydactyl zinc finger DNA-binding proteins," Biochemistry 42(7): 2137-2148 (2003) ΑZ Segal et al., "Attenuation of HIV-1 replication in primary human cells with a designed zinc finger transcription factor," J. Biol. Chem. 279(15): 14509-19 (2004) BA Segal et all., "Zinc fingers and a green thumb: manipulating gene expression in plants," Curr. Opin. BB Plant Biol. 6(2): 163-8 (2003) Stege et al., "Controlling gene expression in plants using synthetic zinc finger transcription factors," BC: Plant J. 32(6): 1077-86 (2002) Tan et al., "Fusion proteins consisting of human immunodeficiency virus type 1 integrase and the designed polydactyl zinc finger protein E2C direct integration of viral DNA into specific sites," J. BD Virol. 78(3): 1301-13 (2004) "A versatile framework for the design of ligand-dependent, transgene-specific transcription factors," Mol. Ther. 3(2): 262-73 (2001)

1	Examiner Signature	Closely, signed by Shukench H. Shuke	Date Considered	
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	EXAMINER: Initial if citati	on considered, whether or not citation is in co sidered, include copy of this form with next co	informance with MPEP 609; Draw line through citation if not in immunication to applicant.	

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LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE							FOF	3	APPLICANT Barbas III et al.						
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LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	APPLICANT Barbas III et al.				
	FILING DATE 06/02/00	GROUP 1645			

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.) Ayer et al., Mad Proteins Contain a Dominant Transcription Repression Domain, Mol. Cell. Biol. 16(10):5772-5781 (1996). Barbas et al., From Catalytic Asymmetric Synthesis to the Transcriptioanl Regulation of ΑU Genes: In Vivo and In Vitro Evolution of Proteins, Adv. Protein Chem. 55:317-66 (2000). Barbas et al., Semisynthetic combinatorial antibody libraries: A chemical solution to the AV diversity problem, TITLE???? 89:4457-61 (1992). Barbas et al., Assembly of combinatorial antibody libraries on phage surfaces: The gene AW III site, Proc. Natl. Acad. Sci. USA, 88:7978-82 (1991). Barbas et al., Combinatorial Immunoglobulin Libraries on the Surface of Phage (Phabs): AX Rapid Selection of Antigen-Specific Fabs, Methods 2:119-24 (1991). Baron et al., Tetracycline-controlled transcription in eukaryotes: novel transactivators AY with graded transactivation potential, Nucl. Acids. Res. 25(14):2723-9 (1997). Beerli et al., Positive and Negative Regulation of Endogenous Genes by Designed ΔZ Transcription Factors, Proc. Natl. Acad. Sci. USA 97(4):1495-500 (2000). Beerli et al., Chemically Regulated Zinc Finger Transcription Factors, J. Biol. Chem. BA 275(42):32617-27 (2000). Beerli et al., Chemically Regulated Zinc Finger Transcription Factors, Journal of Biological BB Chemistry Papers in Press. Live on the JBC's website on August 2, 2000 as Manuscript M005108200. Beerli et al., Toward controlling gene expression at will: Specific regulation of erbB-BC 2/HER-2 promoter by using polydactyl zinc finger proteins constructed from modular building blocks, Proc. Natl. Acad. Sci. USA 95:14628-33 (1998). Bergqvist et al. Loss of DNA-binding and new transcriptional trans-activation function in BD polyomavirus large T-antigen with mutation of zinc finger motif, Nucl. Acids Res. 18(9):2715-20 (1990). Better et al., Esherichia coli Secretion of an Active Chimeric Antibody Fragment, Science RF 240:1041-3 (1988). Burcin et al., Adenovirus-mediated regulable target gene expression in vivo, Proc. Natl. RF Acad. Sci. USA 96:355-60 (1999). Carrillo, et al., The Multiple Sequence Alignment Problem in Biology, SIAM J Applied BG Math 48(5):1073 (1988). Choo et al., Toward a code for the interaction of zinc fingers with DNA: Selection of BĤ randomized fingers displayed on phage, Proc. Natl. Acad. Sci. USA 91:11163-7 (1994).

EXAMINER DATE CONSIDERED 1-31-62

FORM PTO-1449 (Modified)	ATTY. DOCKET NO. 22908-1227B SERIAL NO. 09/586,625				
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE	APPLICANT Barbas III et al.				
STATEMENT	FILING DATE 06/02/00	GROUP 1645			

	U	HER ART (Including Author, Title, Date, Fertilient Lagos, Etc.)
J	ВІ	Corsaro et al., Enhancing the Efficiency of DNA-Mediated Gene Transfer in Mammalian Cells, Somatic Cell Genetics 7(5):603-616 (1981).
1	BJ	Danielian <i>et al.</i> , Identification of Residues in the Estrogen Receptor That Confer Differential Sensitivity to Estrogen and Hydroxytamoxifen, Mol. Endocrinol. 7:234-40 (1993).
9	ВК	Debs <i>et al.</i> Regulation of Gene Expression <i>in Vivo</i> by Lipsome-mediated Delivery of a Purified Transcription Factor, <u>J. Biol. Chem.</u> 265(18):10189-92 (1990).
8	BL	Desjarlais, et al., Use of zinc-finger consensus framework and specificity rules to design specific DNA binding proteins, Proc. Natl. Acad. Sci. USA 90:2256-60 (1993).
1	вм	Devereux et al., A comprehensive set of sequence analysis programs for the VAX, Nucleic Acids Research 129(1):387-395 (1984).
V	BN	Drier et al., Insights into the Molecular Recognition of the 5'-GNN-3' Family of DNA Sequences by Zinc Finger Domains, <u>J. Mol. Biol.</u> 303(4):489-502 (2000).
9	во	Elrod-Erickson et al., High-resolution structures of variant Zif268-DNA complexes: implications for understanding zinc finger-DNA recognition, Structure 6:451-64 (1998).
9	BP	Elrod-Erickson et al., Zif268 protein-DNA complex refined at 1.6 Angstroms: a model system for understanding zinc finger-DNA interactions, Structure 4:1171-80 (1996).
9	ВΩ	Fraley et al., New generation liposomes: the engineering of an efficient vehicle for intracellular delivery of nucleic acids, <u>Trends Biochem. Sci.</u> 6:77-80 (1981).
2	BR	Friedman et al., KAP-1, a novel corepressor for the highly conserved KRAB repression domain, Genes & Dev. 10:2067-78 (1996).
10	BS	Gorziglia et al., Elimination of both E1 and E2a from Adenovirus Vectors Further Improves Prospects for In Vivo Human Gene Therapy, <u>J. Virol.</u> 70(6):4173-78 (1996).
	ВТ	Gossen et al., Tight control of gene expression in mammalain cells by tetracycline-responsive promoters, <u>Proc. Natl. Acad. Sci. USA</u> 89:5547-51 (1992).
V	BU	Greisman et al., A General Strategy for Selecting High-Affinity Zinc Finger Proteins for Diverse DNA Target Sites, Science 275:657-61 (1997).
	BV	Gribskov, et al., Sigma factors from E. coli, B. subtilis, phage SP01, and phage T4 are homologous proteins, Nucl. Acids Res. 14:6745-63 (1986).
9	BW	Grignani et al. Formation of PML/RARa high molecular weight complexes through the PML coiled-coil region is essential for the PML/RARa-mediated retinoic acid response, Oncogene 18:6313-21 (1999).

EXAMINER	M	DATE CONSIDERED	131-02	
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FORM PTO-1449 (Modified)	ATTY. DOCKET NO. 22908-1227B	SERIAL NO. 09/586,625
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE	APPLICANT Barbas III et al.	
STATEMENT	FILING DATE 06/02/00	GROUP 1645

_	O	HER ART (including Author, Title, Date, Fertillett Pages, Etc.)
1	вх	Hall et al., Efficient sequence-specific cleavage of RNA using novel europium complexes conjugated to oligonucleotides, Chemistry and Biology 1:185-190 (1994).
7	BY	He et al., A simplified system for generating recombinant adenoviruses, Proc. Natl. Acad. Sci. USA 95:2509-14 (1998).
9	BZ	Heinzel et al., A complex containing N-CoR, mSin3 and histone deacetylase mediates transcriptional repression, Nature 387:43-6 (1997).
2	CA	Isalan et al., Comprehensive DNA Recognition through Concerted Interactions from Adjacent, Biochemistry 37:12026-33 (1998).
1	СВ	Ishii et al., Characterization of the promoter region of the human c-erbB-2 protooncogene, Proc. Natl. Acad. Sci. USA 84:4374-8 (1987).
19	СС	Jacobs et al. Determination of the base recognition positions of zinc fingers from sequence analysis, The EMBO Journal 11(12):4507-17 (1992).
9	CD	Jamieson et al., A zinc finger directory for high-affinity DNA recognition, Proc. Natl. Acad. Sci. USA 93:12834-9 (1996).
7	CE	Jamieson et al., In Vitro Selection of Zinc Fingers with Altered DNA-Binding Specificity, Biochemistry 33:5689-95 (1994).
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y	CI	Lai et al., Conserved organization of the human and murine T-cell receptor β -gene families, Nature 331:543-6 (1988).
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LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE	APPLICANT Barbas III et al.	
STATEMENT	FILING DATE 06/02/00	GROUP 1645

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)				
J	СМ	Mack et al., Design and Chemical Synthesis of a Sequence-Specific DNA-Cleavage Protein, <u>J. Am. Chem. Soc.</u> 110:7572-4 (1988).		
V	CN	Maniatis <i>et al.</i> , Molecular Cloning-A Laboratory Manual, <u>Cold Spring Harbor Laboratory</u> (1982).		
1	СО	Mannino et al., Liposome Mediated Gene Transfer, BioTechniques 6(7):682-690 (1988).		
The second second	СР	Margolin <i>et al.</i> , Kruppel-associated Boxes are Potent Transcriptional Repression Domains, Proc. Natl. Acad. Sci USA 91:4509-4513 (1994).		
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J	CR	Needleman and Wunsch, A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins, <u>J. Mol. Biol.</u> 48:443-453 (1970).		
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8	CU	Pearson and Lipman, Improved Tools for Biological Sequence Comparison, Proc. Natl. Acad. Sci. USA 85:2444-2448 (1988).		
7	cv	Penque and Lania, Kruppel-Associated Box-Mediated Repression of RNA Polymerase II Promoters is Influenced by the Arrangment of Basal Promoter Elements, Proc. Natl. Acad. Sci. USA 93:1015-1020 (1996).		
87	cw	Pomerantz et al., Structure based design of transcription factors. Science 267:93-96 (1995).		
9	сх	Quigley et al. Complete Androgen Insensitivity Due to Deletion of Exon C of the Androgen Receptor Gene Highlights the Functional Importance of the Second zinc Finger of the Androgen Receptor in Vivo, Molecular Endocrinology 6:1103-12 (1992).		
9	CY	Rader and Barbas III, Phage Display of Combinatorial Antibody Libraries, <u>Current Opinion</u> in <u>Biotechnology</u> 8:503-508 (1997).		
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	U	HEN ANT (including Author, Title, Date, Fertilient Fages, 2001)
1	DB	Rebar and Pabo, Zinc Finger Phage: Affinity Selection of Fingers with New DNA-Binding Specificities, Science 263:671-673 (1994).
9	DC	Regulatory Issues: Future Meetings of the NIH Recombinant DNA Advisory Committee, Human Gene Therapy 5:541-563 (1994).
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9	DE	Sadowski et al., GAL4-VP16 is an Unusually Potent Transcriptional Activator, Nature 335:563-564 (1988).
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Y	DG	Sastry et al., Cloning of the Immunological Repertoire in Escherichia coli for Generation of Monoclonal Catalytic Antibodies: Construction of a Heavy Chain Variable Region-Specific cDNA Library, Proc. Natl. Acad. Sci USA 86:5728-5732 (1989).
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EXAMINER	fr	DATE CONSIDERED	1-31-02	

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PACETY ED-USPTO

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STATEMENT	FILING DATE 06/02/00	GROUP 1645

	O.	HER ART (including Author, Title, Bate, Fertilient Fages, Etc.)
J	DQ	Steinberger et al., Generation and characterization of a recombinant human CCR5-specific Antibody: A phage display approach for rabbit antibody humanization, <u>J. Biol. Chem.</u> 275(46): 36073-36078 (2000).
V	DR	Swirnoff and Milbrandt, DNA-Binding Specificity of NGF-A and Related Zinc Finger Transcription Factors, Mol. Cell. Biol. 15(4):2275-2287 (1995).
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9	DT	Thiesen an Bach, Target Detection Assay (TDA): a Versatile Procedure to Determine DNA Binding Sites as Demonstrated on SP1 Protein, <u>Nucleic Acids Res.</u> 18(11): 3203-3209 (1990).
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EXAMINER	10 M	DATE CONSIDERED	1-31-02

United States Patent and Trademark Office CERTIFICATE OF CORRECTION

Page 1 of 5

PATENT NO. :: 7,329,728
APPLICATION NO :: 09/586,625

DATED

.: MAY 02, 2008

INVENTOR(S)

.: BARBAS III ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE TITLE PAGES:

In Item [56] References Cited, in U.S. PATENT DOCUMENTS:

please add the following reference: —2003/0186841 10/2003 Barbas III et al.—
please add the following reference: —2004/0224385 4/2005 Barbas et al.—
please add the following reference: —2005/0084885 4/2005 Barbas III et al.—
please add the following reference: —2005/0148075 7/2005 Barbas, C.F.—
please add the following reference: —6,790,941 9/2004 Barbas III et al.—

In Item (56) References Cited, in FOREIGN PATENT DOCUMENTS:

please add the following reference: —WO 1/52620 07/2001—please add the following reference: —WO 2/06463 01/2002—please add the following reference: —WO 2002/097050 12/2002—

In Item [56] References Cited, in OTHER PUBLICATIONS:

please add the following reference: — Alwin et al., "Custom zinc-finger nucleases for use in human cells," Mol. Ther. 12(4): 610-617 (2005)—.

please add the following reference: — Blancafort et al., "Designing transcription factor architectures for drug discovery," Mol. Pharmacol. 66(6): 1361-71 (2004)—.

please add the following reference: — Blancafort et al., "Genetic reprogramming of tumor cells by zinc finger transcription factors," Proc. Natl. Acad. Sci. USA

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MAILING ADDRESS OF SENDER:

United States Patent and Trademark Office CERTIFICATE OF CORRECTION

Page 2 of 5

PATENT NO. :: 7,329,728
APPLICATION NO :: 09/586,625

DATED .: MAY 02, 2008

INVENTOR(S) .: BARBAS III ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

102(33): 11716-21 (2005)---.

please add the following reference: — Blancafort et al., "Scanning the human genome with combinatorial transcription factor libraries," Nature Biotechnol. 31(3): 269-274 (2003)—.

please add the following reference: — Blau et al., " γ -globin gene expression in CID-dependent multi-potential cells established from beta-YAC transgenic mice," J. Biol. Chem. August 30, 2005—.

please add the following reference: — Dreier et al., "Development of zinc finger domains for recognition of the 5'-ANN-3' family of DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem. 276(31): 29466-78 (2001)—.

please add the following reference: — Dreier et al., "Development of zinc finger domains for recognition of the 5'-CNN-3' family DNA sequences and their use in the construction of artificial transcription factors," J. Biol. Chem. 280(42):35588-35597 (2005)—.

please add the following reference: — Graslund et al., "Exploring strategies for the design of artificial transcription factors: targeting sites proximal to known regulatory regions for the induction of γ-globin expression and the treatment of sickle cell disease," J. Biol. Chem. 280(5): 3707-14 (2005)—.

please add the following reference: — Guan et al., "Heritable endogenous gene regulation in plants with designed polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13296-301 (2002)—.

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Page 3 of 5

PATENT NO.

.: 7,329,728

APPLICATION NO .: 09/586,625

DATED

.: MAY 02, 2008

Inventor(S)

.: BARBAS III ET AL.

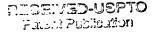
It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

finger transcription factors," J. Am Chem. Soc. 125(3): 612-3 (2003)—.

- please add the following reference: Lund et al., "Promoter-targeted phage display selections with preassembled synthetic zinc finger libraries for endogenous gene regulation," J. Mol. Biol. 340(3): 599-613 (2004)—.
- please add the following reference: Lund et al., "Zinc Finger Transcription Factors Designed for Bispecific Coregulation of ErB2 and ErbB3 Receptors: Insights into ErbB Receptor Biology," Mol. Cell. Biol. 25(20): 9082-91 (2005)---.
- please add the following reference: Magnenat et al., "In vivo selection of combinatorial libraries and designed affinity maturation of polydactyl zinc finger transcription factors for ICAM-1 provides new insights into gene regulation," J. Mol. Biol. 341(3): 635-49 (2004)—.
- please add the following reference: Ordiz et al., "Regulation of transgene expression in plants with polydactyl zinc finger transcription factors," Proc. Natl. Acad. Sci. USA 99(20): 13290-5 (2002)—.
- please add the following reference: Segal et al., "Custom DNA-binding proteins come of age: polydactyl zinc-finger proteins," Curr. Opin. Biotechnol. 12(6): 632-7 (2001)—.
- please add the following reference: Segal et al., "Evaluation of a modular strategy for the construction of novel polydactyl zinc finger DNA-binding proteins," Biochemistry 42(7): 2137-2148 (2003)—.
- please add the following reference: Segal et al., "Attenuation of HIV-1 replication in primary human cells with a designed zinc finger transcription factor," J. Biol. Chem. 279(15): 14509-19 (2004)—.

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 4 of 5

PATENT NO.

.: 7,329,728

APPLICATION NO .: 09/586,625

DATED

.: MAY 02, 2008

INVENTOR(S)

.: BARBAS III ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

please add the following reference: — Segal et al., "Zinc fingers and a green thumb: manipulating gene expression in plants," Curr. Opin. Plant Biol. 6(2): 163-8 (2003)—.

please add the following reference: — Stege et al., "Controlling gene expression in plants using synthetic zinc finger transcription factors," Plant J. 32(6): 1077-86 (2002)—.

please add the following reference: — Tan et al., "Fusion proteins consisting of human immunodeficiency virus type 1 integrase and the designed polydactyl zinc finger protein E2C direct integration of viral DNA into specific sites," J. Virol. 78(3): 1301-13 (2004)—.

please add the following reference: — Xu et al., "A versatile framework for the design of ligand-dependent, transgene-specific transcription factors," Mol. Ther. 3(2): 262-73 (2001) —.

2003. —.

in Rollins, et al., please replace "TFIIA" with — TFIIIA—.

IN THE CLAIMS:

Please replace Claim 32 with the following amended claim:

The vector of claim 31 that is selected from the group consisting of an adenoviral vector, an adeno-associated viral vector, a herpes virus vector, a vaccinia virus vector and a lentiviral vector.

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MAILING ADDRESS OF SENDER:

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page <u>5</u> of <u>5</u>

PATENT NO.

.: 7,329,728

APPLICATION NO .: 09/586,625

DATED

.: MAY 02, 2008

INVENTOR(S)

.: BARBAS III ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Please replace Claim 34 with the following amended claim:

34. The vector of claim 33 that is selected from the group consisting of an adenoviral vector, an adeno-associated viral vector, a herpes virus vector, a vaccinia virus vector and a lentiviral vector.

Please replace Claim 35 with the following amended claim:

- A combination, comprising:
- a composition containing a fusion protein of claim 1; or
- a composition containing a nucleic acid molecule comprising a sequence of nucleotides that encodes the fusion protein; and
- a composition containing a regulatable expression cassette that comprises at least one response element recognized by the nucleic acid binding domain of the fusion protein.

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